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ABSTRACT

Oral language research has reported upon the social and psychological setting that facilitates language learning. This investigation provided such a setting for Grade One children who were expected to become actively involved in writing their own communications from their first day at school. Teachers encouraged children to find their own strategies to solve problems with spelling and other conventions of written English. Teachers accepted all representations and responded to the meaning rather than to the form. An analysis of written work, collected daily over an 8-month period, is reported in terms of Gentry's (1982) developmental stages. Over time the children demonstrated increasing control over all aspects of the writing process. Each child's writing exhibited characteristics common to those of other young writers, yet each was unique. The observations and analysis support a problem-solving, hypothesis-testing view of language learning and a conceptualization of writing as a natural developmental process.

One of the prime functions of schooling is to ensure that children learn to communicate effectively in written as well as oral form. Therefore many programs are available to teach children how to read and write during their first year at school. However, some children experience great difficulty with this initial learning, while others (Bissex, 1980; Chomsky, 1979; Goodman, 1982) show evidence of learning without teaching, before attending school. Thus one could contend that growth in written language, like that of oral language, occurs as a result of learning rather than teaching and may be independent of school instruction. In an effort to explore this possibility and thereby identify the conditions that best foster language growth, researchers have turned toward current theories of oral language acquisition.

Evidence reported by Brown and Bellugi (1964), Ervin-Tripp (1973), and others supports the theory that children acquire oral language by actively forming and testing hypotheses to induce the underlying rules. They do so in a social environment which offers encouragement and support. In this environment there is an acceptance of experimentation, and children receive immediate feedback regarding the successful communication of their meaning (Cazden, 1972). Adults listen to the utterances of young children with the expectation that meaning is intended, even if the phonological and syntactic forms are incorrect in conventional, adult terms (Brown, Cazden, and Bellugi, 1973). Analyses of the forms of these early utterances have shown that children's errors are systematic and develop in a stage-like progression toward closer approximations to standard English (Miller, 1973). Their language grows from becoming telegraphic and context-embedded toward being explicit and elaborated (Bissex, 1981).

Parallels between the acquisition of hearing/speaking and reading/writing have been drawn by Gibson (1972). She compared the sematic and syntactic aspects as well as the phonological/orthographic rule systems. Read (1971) analyzed the early written communications of young children. He examined their deviations (i.e. errors) from the conventional written form of English to infer the underlying process by which they represented meaning in print. His analysis revealed that their errors were systematic and that there was a consistent sequence of development across children. His in-depth investi-

gation of these systematic errors indicated that the young writers tacitly realized there was a system of phonological rules that could be induced, but their hypotheses were based upon different judgements than those of adults. He reported that they first used letter names as a source of information, and categorized speech sounds on the basis of their place of articulation in the mouth. Research reported by Gentry (1982) and Henderson and Beers (1980) reinforced Read's results and elaborated on the levels and sequence of the spontaneous spellings of primary school children. The children they studied used the same system of spellings in a process of successive approximations which moved ever closer toward conventional patterns of written English.

Children entering school are seldom expected to be able to produce their own written communication without prior instruction. Thus, initial school instruction is commonly concerned with teaching children the transcription skills of writing (Smith, 1982). These are the "correct", conventional ways in which language is represented in print. However, learning as an internal process relies more upon what the learner already knows than it does upon external influences (Gallagher and Reid, 1981). Children need the experience of engaging in the writing task before they are asked to make sense of its form. In fact, they will not be able to use instruction about the writing process until they have become immersed in it (Ferreiro and Teberosky, 1982). Naturally their first writing attempts will not contain spellings and other conventions that are considered correct, however they will have some prior knowledge about print which they can use. Traditional teaching programs are not designed to take advantage of this knowledge. Either there is a gap between the children's knowledge and experience and what they are expected to do, or they are not required to apply the knowledge they have. In both cases children's understanding and teacher's expectations do not connect. Dyson (1982) investigated such missed connections between what children know and what they are taught.

Chomsky (1971) and Clay (1975) studied relationships between beginning reading and writing. They found that initially some children learn to write more easily than they learn to read. Evidence has also been found that learning

to write can facilitate learning to read (Dykstra, 1968). Dobson (1982) and Lancaster, Nelson and Morris (1982) have reported upon writing programs designed for children having difficulty in learning to read. In both cases success in writing led to later success in reading.

In the present investigation Grade One children were expected to communicate in writing in any way they could from their first day at school. This expectation was based on the premise that young children can learn to write by writing if they are immersed in a social and psychological setting appropriate for language learning. The relevant features of such settings were first described by the oral language researchers, but more recently they have appeared in reports of classroom environments (Birnbaum, 1980; Bissex, 1981; Clay, 1982; Deford and Harste, 1982; Hurst, 1982). These reports from the literature and their own observations prompted Hurst, (Dobson,Chow, Nucich, Stickley, and Smith, in press) to present the following list of principles.

1. Provide a warm supportive setting rich in interactions and demonstrations of functional oral language and literacy.
2. Emphasize the process of writing rather than the product, allowing generous periods of time to explore the process.
3. Respond to the intended meaning of the children's writing first. Some attention can be paid to form, but only when the children indicate they are ready to use it in their work.
4. Present the writing task as a problem-solving enterprise in which the children learn to write by writing, using their initiative and all the resources at their disposal to solve problems of form.
5. Expect children to come up with their own topics to ensure that the writing is meaningful and purposeful from their point of view.
6. Encourage the children to use their own illustrations as a source and support for their writing.
7. Accept the children's own representations of written communication as a legitimate indication of their conceptualization of the writing task.

8. Expect a developmental progression in their writing efforts, over time, having confidence that errors are natural rather than habit forming and that the children will self-correct errors in direct relation to their stage of development.
9. Evaluate individually both in terms of the developmental progression and in terms of their own oral language.

Reports from teachers who conducted research within their own classrooms (Estabrook, 1982; Giacobbe, 1981; Hauser, 1982; Milz, 1980) have shown that children can communicate in writing from their first day at school. The children described in these reports were able to use the alphabetic principle that there is a correspondence between letters and the sound units of speech from their first day at school.

Ferreiro and Teberosky (1982) made an extensive study of the knowledge of reading and writing exhibited by pre-school children from middle class and lower class backgrounds. A number of children in their study did not demonstrate an understanding of the alphabetic principle and thus were writing at an earlier stage of development when they began their schooling.

The expectations for this investigation were as follows.

1. All children would be able to participate in the writing program at their own level of understanding.
2. Children would exhibit that understanding in their written representations.
3. Children would begin the program at different stages of development and progress at their own pace.
4. Children would follow a similar progression regardless of their diverse cultural and language background.
5. If children were forced to become problem-solvers to represent their meaning then they would take control of the writing process for themselves. They would exhibit this control by progressing through discernible stages of development towards closer approximations to the conventions of written English.

The experimenter operated as a teacher-researcher (Graves, 1981) within the classroom situation. She worked along with classroom teachers and an English Language Centre teacher. She not only observed and recorded behaviour, but she also interacted with the children and the other teachers and recorded those interactions. Writing samples were gathered from each child, four times a week, for eight months. This data was analyzed within the framework of stages originally labelled by Gentry (1982) in his study of developmental spelling.

METHOD

Subjects

Twenty-four, first grade children produced the writings that are the primary source of data. The group included all the pupils continuously enrolled during the eight month period of data collection in that grade in a primary school.

Eight additional children who were in the classroom for a part of this time produced writing that was not included.

The school is located in a low socio-encomic area of an urban centre. Of the twenty-four subjects there are fourteen (58%) for whom English is a second language.

Setting and Materials

The program took place in a large grade one classroom. Group seating at six separate tables was arranged so that child-to-child interaction was facilitated. The groupings were changed from day to day.

The children were issued half-plain and half-lined notebooks and pencils. Each group received a large set of coloured pens, pencils or crayons and an eraser.

Once a week the children were offered an attractive sticker to affix to their notebooks.

Procedure

The writing period was scheduled at 1:00 p.m., four days a week. The children were allowed up to forty minutes for their drawing and accompanying writing.

Every day before class the children's notebooks were placed on the tables. The children circled the tables looking for their books, and seated themselves accordingly.

Initially, the children were told to draw an interesting picture and to write about it. This became an accepted expectation which did not need to be expressed. The classroom teacher, the English Language Centre teacher and the teacher/researcher as the experimenter (E) were in attendance. The teachers gave encouragement to the children to use their own ideas. The teachers responded with the intention of establishing trust and acceptance of all work. Once that trust seemed to be established they experimented with responses and comments that led to problem-solving, self-correction and expansion. They did not initiate any activity or provide information or instruction. Upon completion of the writing the children shared their work with at least one of the teachers. The teachers responded verbally to the intended meaning of the communication rather than to its form. Then the page was dated and the message was recorded in the back cover of the notebook, in handwriting (E did not wish to draw attention to discrepancies between the teacher's and child's representations). No changes or corrections were made on the children's work.

Every piece of writing was accepted as a legitimate expression of meaning. Stickers were distributed on Thursdays during the writing period. For the first three weeks they were given to the children upon the completion of their work, as reinforcement. This practice was discontinued because it seemed to shorten the children's work rather than improve it. Thereafter stickers were given automatically to everyone at the beginning of the Thursday writing period.

The children wrote a great deal and completed many notebooks. These notebooks

were accumulated to provide a continuous record of progress. All three teachers functioned as observers of children in the process of writing. They noted pertinent observations and conversations at the back of children's notebooks or in separate log books. These notes contributed additional data to the study.

As the first consideration was for the children's education, the program remained flexible throughout. The teachers conferred regularly, with the intention of making any necessary alterations to the format. The time of the writing period was lengthened from thirty to forty minutes and the use of stickers as reinforcement was discontinued. Otherwise no changes were made.

RESULTS

Approximately 3,500 items of data were collected and analyzed. These were the children's written communications. Additional data were collected by E who acted as a teacher-researcher within the writing environment. She observed and noted the behaviour of the children in the process of writing. Three other teachers participated in the teaching program. Regular conferences with these teachers added to the comprehensiveness of the data.

The effectiveness of the program as curriculum was evaluated through the comments and observations of teachers, parents, and pupils. In the affective domain, the following results were observed.

1/ The children were willing and able to write each day on topics of their own choice. All the children completed a written communication each day without special attention, urging, rewards, or threats. Early communications were five to ten words in length while later ones exceeded thirty words. Sometimes a piece of writing was continued over three or four days. Many times children wrote more than one story within a single period. Pupils and parents reported that many stories were written at home. Some of these were brought to share at school.

2/ The children attended to and concentrated upon the writing task. After the first week the children needed little supervision as they wrote. The classroom teacher reported that discipline was easier within the writing period than at other times. Since many children wanted and needed more time to complete their writing, the period was gradually extended from thirty to forty minutes. Children in the process of writing were observed to be talking to themselves, saying the words as they spelled them, and working out solutions for symbol to sound correspondence. Children spoke to others about their topics as they drew their illustrations. This talk seemed to provide context and rehearsal for their writing. Discussions about letters, their form and use, were also overheard.

3/ The children demonstrated their enthusiasm for writing. Parents reported child-initiated discussion of possible topics for the day's story-writing during breakfast and on the way to school. Children approached teachers prior to the writing period to say they had their stories already in their heads. Some of the more difficult pupils produced their best work of the day at writing time.

4/ The children showed pride in their work. The children sought out teachers upon completion of their written work. At first they read their work to the teacher, but later they asked the teacher to read it, showing pleasure in their ability to produce stories that others were able to read. This increasing readability came from their adoption of more conventional forms. Although the teachers did not pay attention to appearance, every child's work showed increasing neatness and legibility.

The expectations of the investigation were all met as follows.

1. The children were able to communicate in the written form. Some children accompanied their pictures with writing on the first day, while others did not begin to write for several days. From the end of the first week all the children participated every day.

2. The children used their own ideas about written English to represent their meanings. To this extent their writing can be considered to reflect the level of their understanding. Each child's writing was unique, yet certain similarities appeared across children.

3. The children began the program at different stages of development and progressed at their own pace. Table I illustrates this progress through the first four stages of a developmental spelling classification system delineated by Gentry (1982). Each stage represents an advance in the children's level of conceptualization. However, movement from one stage to the next was not sudden and complete but flowed and overlapped into it. The sequence of development observed in the data and Gentry's system have led to revisions in An Envolving Model of the Continuum of Emergent Literacy (Hurst, 1982) found in Appendix A. The revised writing section is illustrated in Table II.

4. Factors such as language and cultural differences, sex, or family situation did not seem to consistently alter the children's strategies or development. For example, phonetic representations of spelling were systematically similar across children even when some of those children had little experience with spoken English. The influence of their oral language was only noticeable in the syntax of their written work. One boy new to our country, learned to speak and write English at the same time. He showed understanding of the alphabetic principle from the beginning and was equally functional in both written and oral communication.

5. The children progressed along a developmental continuum toward closer approximations to the conventions of written English. The notebooks of the children showed increasing control over letter formation, spelling, spacing, directionality, and capitalization. The originality and fluency of their later work was well above the standard assumed for the children at this grade level. The classroom teacher reported her class had fewer problems with beginning reading than in past years. The number of children referred for learning assistance was reduced by 75%.

The features that have been used characterize each stage on the continuum will now be reported.

I. The Precommunicative Stage. The primary characteristic of writers at this stage is that they do not demonstrate a knowledge of letter/sound correspondence. Nine (37.5%) of the children in this study produced work in this category in September.

- Insert Figure 1 here -

Sometimes the children at this stage labelled their drawings with their own names or those of family or friends. They used alphabet letters in their writing - mostly in the upper case. However, they did not produce real messages.

E tested understanding of the left-to-right and top-to-bottom direction of written English by saying to the children, "Read it with your finger". Three children were variable in their initial response to this task.

II. The Semi-Phonetic Stage. Children are at this stage when they begin to attempt the match between written symbols and spoken words. Ten of the children began at this stage. Initially, they would often use a symbol to stand for a whole word. As a basis for their choice they used information they knew, including numbers and letters names.

2 (to)	4 (for)	8 (ate)
C (see)	U (you)	R (are)

- Insert Figure 2 here -

If they perceived the sound of a part of the word to be a letter name, they used that letter to represent it.

PD (party, pronounced par-dee)
RD (ready)
L (el, as in elephant)
N (ten)

They used the name of the letter which was closest to the sound of the word or the word part they wished to represent.

H = /ch/ or /sh

M = /am/ or /em/ IM (I am)

K = /g/ KWN (going)

Y = /w/ YNT (went)

V, D, or F = /t/ VAR (there) D (the)

- Insert Figure 3 here -

Sight words such as, in, to, the, and, is, my, this, and visual approximations to these words, AED, TE, TS, began to appear in their writing. Classmates' names had become well-known and were used as sound units in other connections.

MAI (my)

PIRTANYA (Britannia)

ROLING (rolling)

The children's first semiphonetic writing was seldom spaced. This lack of separation between words made the work difficult for the child to reread and also difficult for an adult to decipher. Children's oral reading of their own work would always retain the meaning but the precise wording of their message was often lost. This loss affected the match between oral reading and written message.

- Insert Figure 4 here -

The appearance of sight words in text often seemed to accompany a greater control over word separation and increased use of lower case letters. Children experimented with various ways of separating words. Periods, dashes, and slash marks appeared between words. One child tried all of these before settling on spaces. Early attempts at spacing often resulted in the separation of groups of words within sentences (see Figures 3,4, and 5). An increasing use of spaces to separate words was observed in all children's work, but

was particularly noticeable for one child as Figures 5 and 6 show. On January 13th Tom spontaneously mentioned his growing awareness of the need for spacing.

C: I no leave spaces. (He volunteered to E as he shared his day's writing

- Insert Figure 5 here -

His work dated January 18th showed that he was now able to put this awareness into practice.

- Insert Figure 6 here -

The upper case form for letters predominated in the first writing attempts. The change to lower case was gradual and accompanied the change to more proficient writing. It was found that suggestions to incorporate spacing and appropriate lower case letters did not have the desired outcome. However, these changes systematically appeared with time.

Some words continued to be capitalized, usually the first letter of significant words and the first word in a story. However, some letters, particularly the easily confusable b,d; and I,l; continued to appear in the upper case form at every stage of development.

- Insert Figure 7 here -

After five months of daily writing experience 27 of the 28 children were producing well-spaced, readable work although the reader still needed to use context and syntax clues to penetrate the functional spellings and misplaced word boundaries. The following examples illustrate some of the confusions children were experiencing.

B cos (because)
how - cy (hockey)
a gest (against)
aletobt (a little bit)

III. The Phonetic Stage. At this stage children attempt to provide a phonetic mapping of letters to all the sounds that they perceive. Five children were writing at this stage in September. They sometimes generalized their phonetic strategy to words that they had previously spelled correctly.

Intuitively they seemed to use vowels in appropriate places, but the vowels they used were not always the expected ones. Typical short vowel substitutions were:

A for /ĕ/	WAT (went)	
E for /ĭ/	PETHR (picture)	PECEN (picking)
I for /ŏ/	GINA (going to)	
O for /ŭ/	DRONC (drunk)	FON (fun)

Four children represented /w/ as O. Three of these children persisted with the strategy for some time.

- Insert Figure 8 here -

Recurring phonological representations about certain consonants were observed.

D = /t/	PD (par-ty)	
CH = /t/	CHRAN (train)	CHICOCHEING (trick or treating)
J or G = /d/	GRAGIN (dragon)	JRAU (draw)

When a nasal /n/ or /m/ occurred before a consonant, the children demonstrated one of two strategies.

1. They omitted it from the spelling.

   DOT (don't) WAT (went) ROG (wrong)

2. They omitted the following consonant.

   PLAN (playing) PECAN (picking) FRN (friend)

The children often used their sounding out strategy differently on recurring words. One child spelled going as goen, gowing, and gonna (going to) within the same piece of writing. Words were sometimes perceived differently accord-

ing to usage, and this difference was reflected in the spelling.

- Insert Figure 9 here -

In this example and is pronounced first as /n/, then as /ə̆/ and the spelling reflects the pronounciation rather than the word as an analyzed unit.

Writing that had greater fluency, flexibility, and originality appeared at the phonetic stage. The children wrote about family, friends, holiday events, daily happenings, PacMan, hockey, soccer, houses, rainbows, toys, pets, princesses, flowers, knight-riders, E.T. and super heroes. They seemed to take most satisfaction from the writing process itself. They shared with teachers but took slight interest in E's attempts to have them share their writing products with each other or to look for wider publication (E had some stories typed and presented in book form for class reading).

IV. The Transitional Stage. During this stage the writer undergoes a transition from reliance on phonology or sound for representing words in spelling, to much greater reliance on visual and morphophonemic representations which incorporate aspects of grammar and meaning. Early spellings which became unconventional in response to perceived phonetic judgements, now reappeared in the correct form.

The awareness that particular patterns of letters corresponded to particular patterns of sounds resulted in many over-generalizations.

C: Now I know how to spell go. G-H-O.
E: Oh! How do you know that?
C: Because here's GHOST.

Visual approximations occurred more frequently. The, formerly represented by D, was more often mis-spelled, Te.

The transition to standard spelling seemed to occur as the children became more experienced readers. The better readers re-read and self-corrected their writing more often. In the following example a child is reading the

first draft of his story to E.

C: I got hurt...and it hurt. (but the repetition of hurt was spelled r-a-t).
E: How did you get hurt?...Would you like to explain that in your story?
C: (re-reading to find his place) This says rat. How did rat get on my paper? (much erasing and re-writing).

- Insert Figure 10 here -

Children explored the uses of punctuation marks. Periods, dashes, exclamation marks, apostrophes and question marks appeared in their work.

- Insert Figure 11 here -

The period stabilized first at the end of a piece of writing. Sometimes it was used at the end of every line of print.

Suffixes like -ed and -ing appeared as units at this stage. One child began using a at the end of many words. When asked why, she said it just had to be there.

- Insert Figure 12 here -

By the end of the eight months of the study twenty-seven of the twenty-eight children were using a mixture of visual and sounding out strategies. Some children showed a preference for visual approximations for unfamiliar words, others used more sound approximations. But all twenty-seven children wrote independently and legibly on topics of their own choice. The twenty-eighth child continued to write a sequence of carefully formed upper-case letters. She included word units within the apparently random string of letters but when she was told to "Read it with your finger", these units did not match her words as she spoke them. She followed the sequence in space of left-to-right and top-to-bottom and related it to the sequence in time of her reported message. She would self-correct if oral message and print did not end together. However, she did not use letters singly or as visual units to represent the sound units of her message.

Some children began to write their stories first and illustrate later or not at all. Some began to write about imaginary events in addition to real ones. The syntax of their written work began to reflect that of conventional story language. Sentences became more complicated and mature.

- Insert Figure 13 here -

Journal writing predominated, but children also chose to:
- retell favourite stories (The Little Red Hen, The Three Pigs)
- write songs
- use poetry-like word play (see Figure 14)
- write riddles (see Figure 15)
- report in detail on T.V. hockey games (see Figure 15)
- write conversation (see Figure 16).

The children now gave their completed stories to the teacher and said, "You read it to me". They seemed pleased that others could decipher their work. They were beginning to look for new audiences. Reading to the class was becoming popular as the data collection ended.

DISCUSSION

The children were successful in their acquisition of written language well beyond the expectation of the investigator and her fellow teachers. The children met the challenge to solve their own problems and their success generated the boost to their self-esteem that is most necessary for achievement. The children exuded excitement and confidence about themselves as writers and as independent problem-solvers. At the year's end they shared their amazement at their early work with their teachers, obviously delighted at their progress. They continued to write daily in the two months which followed the eight month period of data collection. During this time they wrote longer stories and experimented more with style and function. The quantity and quality of their writing continued to exceed the classroom teacher's expectations. Other classroom teachers became interested in starting similar programs so six teachers, including the author, have written a guide for them (Hurst, M.; Dobson, L.; Chow, M.; Nucich, J.; Stickley, L.; and Smith, G., in press).

Traditional programs teach first and expect that children will be able to write later, once mechanical skills are acquired. This investigation shows that the very opposite order of events can produce better writing and more positive writers. What are the elements that seemed to be crucial to such success?

1/ The teachers accepted the children's work for the meaning it contained and did not make corrections. Teachers encouraged the children to use all the information they had, and to actively seek new solutions. Children therefore, became the source of information rather than the teachers and thereby they took control of their own learning.

2/ Children were expected to both compose a message and to transcribe it onto paper from the first day. Thus the flow of learning began with the whole act of writing. The transcription skills were learned in the process, and only later were analyzed in their parts. This meant that skill lessons in phonics, printing, and spelling were more meaningful so that the time spent for their instruction was much shorter.

3/ Children were active pursuers of information. Teachers observed and commented upon their strategies. They asked, "How did you know how to do that?" In this way children became aware of their previously unexamined problem-solving activities. It also placed the emphasis upon the process of writing rather than the product.

4/ Teachers considered errors to be valuable signposts, in that they gave clues to children's thinking. They were evidence of children's activity as problem-solvers and thus were a sign of success. As the program continued the teachers grew more experienced in detecting children's intentions and strategies. As they understood more fully the learner's point of view, the teachers became able to confer more meaningfully and usefully with the children. They experimented with their responses to children's work to discover the interactions which best facilitated the writing process. The teachers reacted to what the children were actually doing, rather than expecting the children to follow their lead. A record of the most helpful teacher/child interact-

ions is in A Program to foster literacy: Early steps in learning to write (Hurst et al, in press).

The children came from diverse cultural, language, and socio-economic backgrounds. It had been predicted that some would experience learning difficulties. Yet these children were able to both participate and to improve their performance in a manner similar to that of all children. The finding was that language or socio-economic factors alone did not predict the rate, nor affect the sequence of children's learning. The reported progress of two Chinese children who had little contact with spoken English illustrates the point. Keith learned to speak and write English at the same time, and became functional in both. Mary's progress was slow, and she remained within the first level of conceptualization. Current teaching methodology seldom creates an opportunity for such parallel development to occur within a single program.

Mary had an accident which caused her to miss almost four months of schooling. Following the investigation she was referred for tutorial help with beginning reading and writing. The remedial teacher discovered that she knew the letter names of the alphabet and so she encouraged her to use that information to represent words. This strategy is the one that characterizes the second, semiphonetic level. In this way the teacher was able to use insight gained as a result of the investigation to know where the child was, where she should go next, and that she had the necessary information to get there. Within a month Mary was able to use her growing sight vocabulary and letter name strategy to produce the following message.

- Insert Figure 17 here -

The children's first writings revealed various levels of understanding. One child used spelling and spacing strategies in September that another child did not use until January. Yet the same progression was evident across all children's work. Two factors seemed to predict the level of performance at the end of the program. The first factor was the stage at which children were working at the start of the program. Children who were furthest along the developmental continuum in September generally continued to be the furthest along in April. The second factor was the ability and willingness shown

by children to be innovative and to work out their own solutions. Some children, like the one who experimented with four ways of spacing, tried out many possibilities of form before making a final selection. They seemed to explore each stage to its fullest extent before proceeding to the next level.

The experimenter operated as both teacher and researcher. She found these roles to be complementary rather than conflicting. Many activities, such as record-keeping and observation, are common to both. Researchers who are also teachers can conduct research which is of direct benefit to themselves (Graves, 1983). They can test the application of educational theory in a true laboratory, the classroom itself. When teachers conduct their own research they become active hypothesis-testers, just as children do. Thus, children and teachers work together and learn from each other.

CONCLUSION

The evidence of this investigation shows that children can discover the writing system for themselves, and in so doing produce writing that is fluent and comprehensible. They have accomplished this feat in a fashion similar to that of oral language learners - in a series of successive approximations which move ever closer toward conventional English. This finding reinforces the theory that language learning is a hypothesis-testing situation in which the learner forms hypotheses, tests them out, and confirms or discomfirms them. Language acquisition therefore, is similar to any other learning task. It requires active participation on the part of the learner.

The findings strike at the heart of the assumption that there is a right method of teaching writing and reading. It seems that children will only benefit from direct instruction when it serves to confirm their own hypotheses, or when the information can be readily assimilated into their established conceptualizations. Instruction that does not meet these criteria will fail children by presenting material that is already known and boring to them, or that is conceptually beyond them.

An informed opinion of children's developmental learning will give teachers a way of categorizing children's work to discover the basis of their current understanding and the next step to advancement. The emphasis is on learning rather than teaching. Teachers are in an excellent position to observe learners and to collect relevant data as learning occurs. It is teachers who are in a position to put theory to the test, by putting it into practice.

The perspective of the observer is crucial to an investigation. People perceive what they look for. The current outcry is "Back to the basics!" But what is basic for reading and for writing? The basic need is for teachers that are knowledgeable about children's development so that they can arrange optimal conditions for learning.

Through experimentation teachers and children can grow together and provide insights for one another. This report intends to provide an experiential base of information and a new perspective upon instruction for teachers who wish to understand, and to nurture, their own pupils' growth toward literacy.

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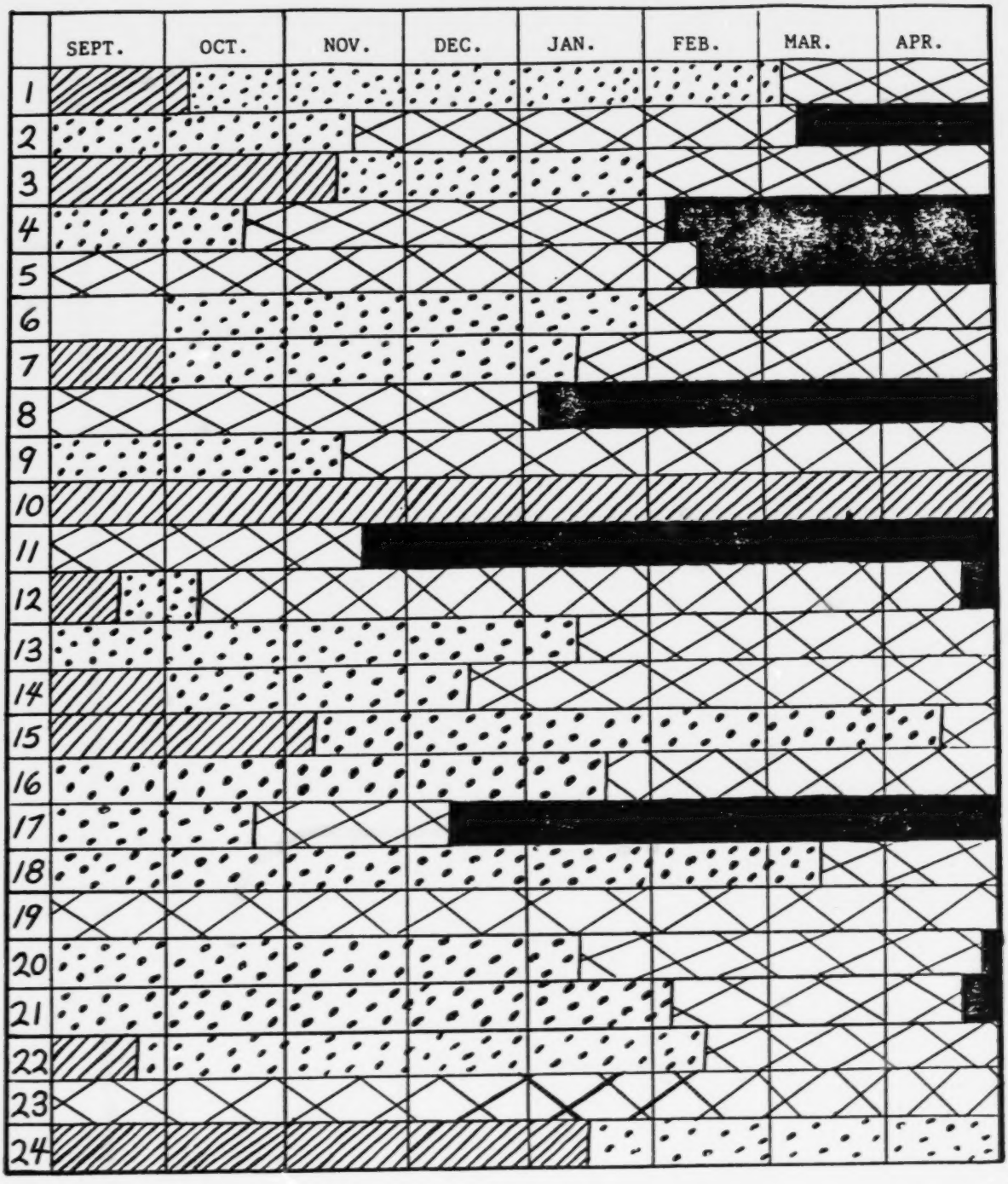
TABLE I



KEY: Precommunicative | Semi-Phonetic | Phonetic | Transitional

THE PROGRESS OF GRADE ONE WRITERS
THROUGH DEVELOPMENTAL STAGES (Gentry, 1982)

TABLE II

AN EVOLVING MODEL OF THE CONTINUUM
OF EMERGENT LITERACY (WRITING SECTION)

WRITING

Precommunicative
- scribble
- shapes
- linearity
- symbol-like
- random letters
- unstable direction
- prints own name

Semi-Phonetic
- single letters-knows must be specific
- direction controlled
- complete message represented
- semi-syllabic, letter name strategy,
- no vowels

Phonetic
- approximating vowels
- some sight words
- most surface sounds represented
  - own perceptions

Transitional
- beginning to represent conventional vowels
- beginning of inflectional patterns (ed, ing)
- increasing use of visual patterns

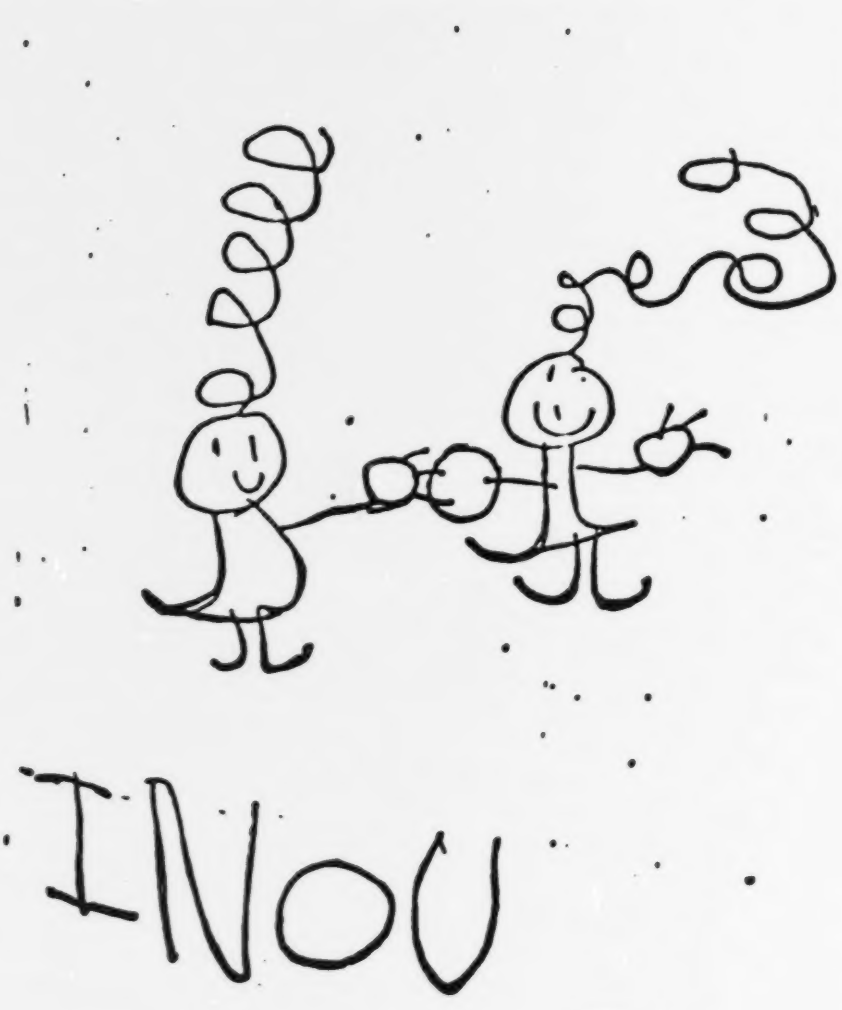
Correct
- vowel markers
- inflectional patterns
- derivational patterns

FIGURE 1

L O R W BA
i P E F i O Wa
b Γ I H BITS

I was going to the school. Come back after lunch to school.

FIGURE 2



I know you.

FIGURE 3

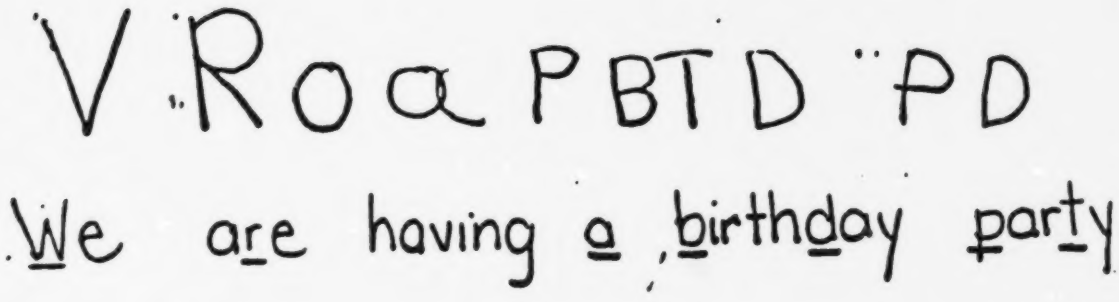
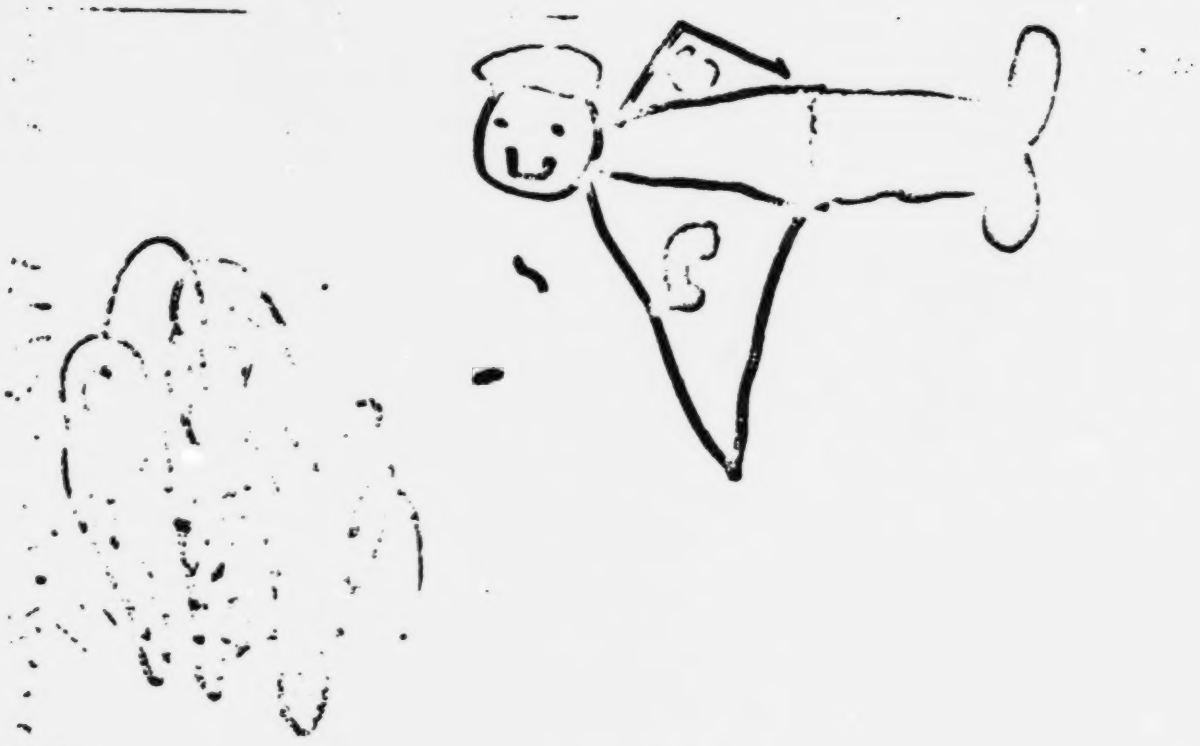


FIGURE 4

rua carnoimaman.

Are you a car? No. I am a man.

FIGURE 5



I SaSemeMilheimNice

I saw a superman and I like him and I say help.

FIGURE 6

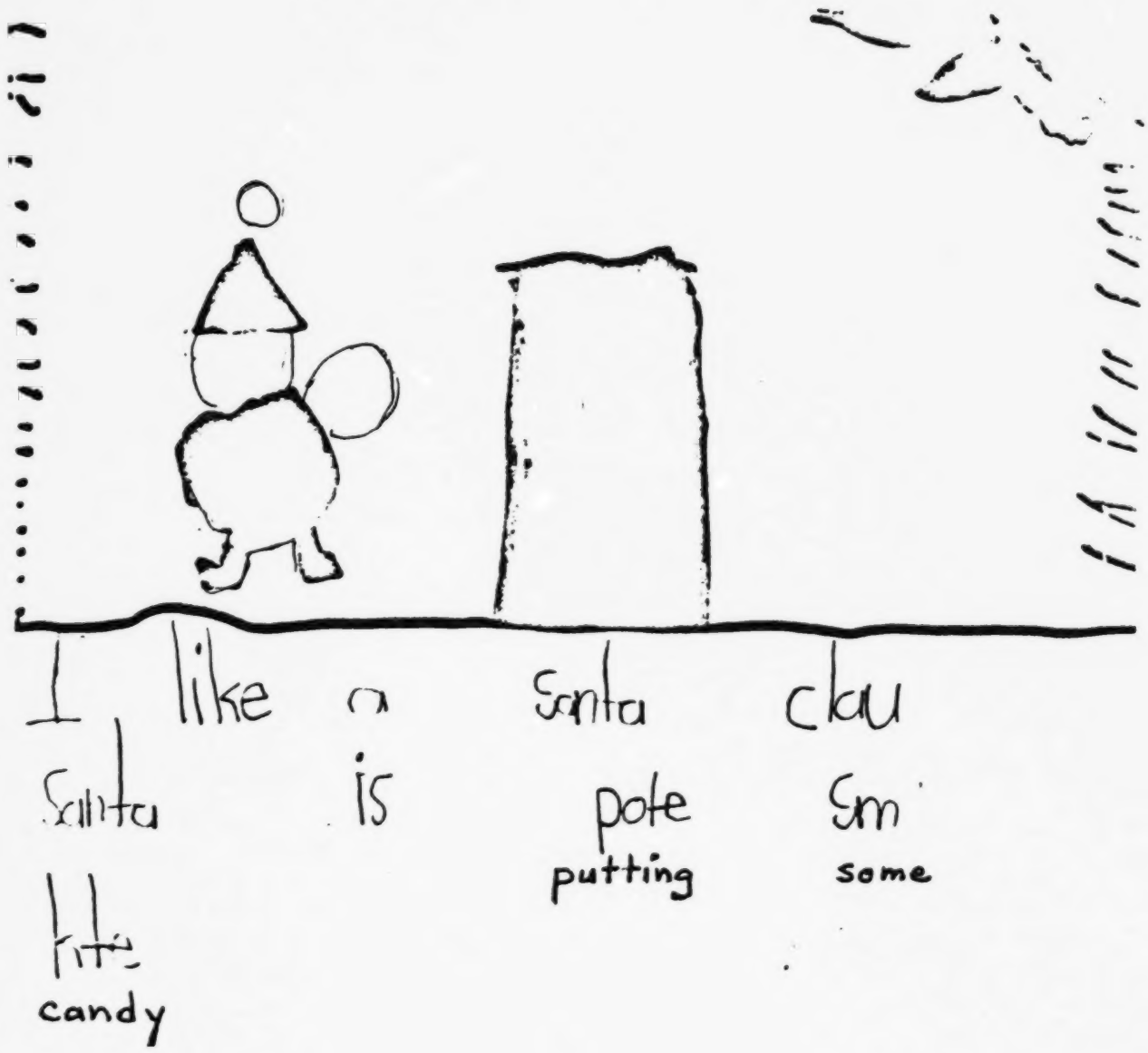


FIGURE 7

eDt ihfn Dl a pBoD.

Yesterday I had fun. There lot
a people there.

FIGURE 8

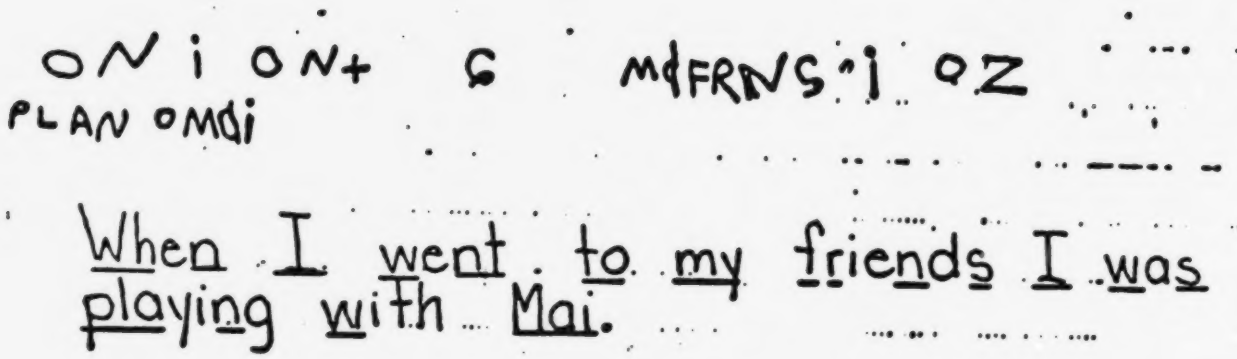
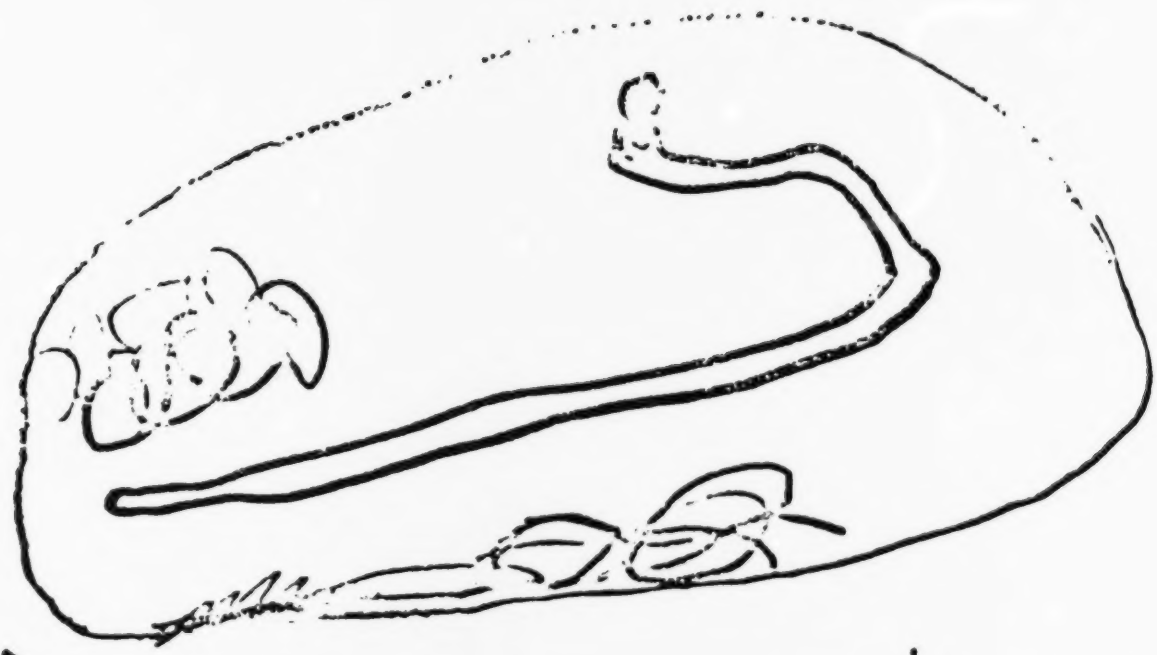


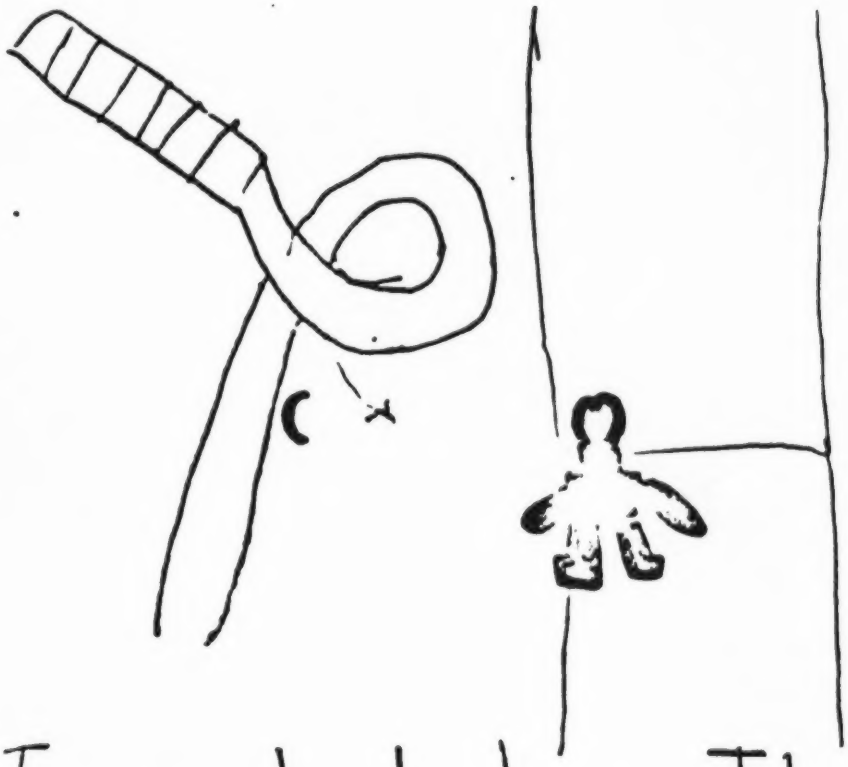
FIGURE 9



D worms 8 Mai tme N
mak Deas a i sok

The worms ate my tummy and make dust and I sick.

FIGURE 10



I gat hrt in The sad

Then I haf TO GO TO
The afis to gat a tiP

on MY ne Then I
fel good Then I wat

a Ot sad

I got hurt in the slide. Then I have to go to the office to get a tape on my knee. Then I feel good.

FIGURE 11

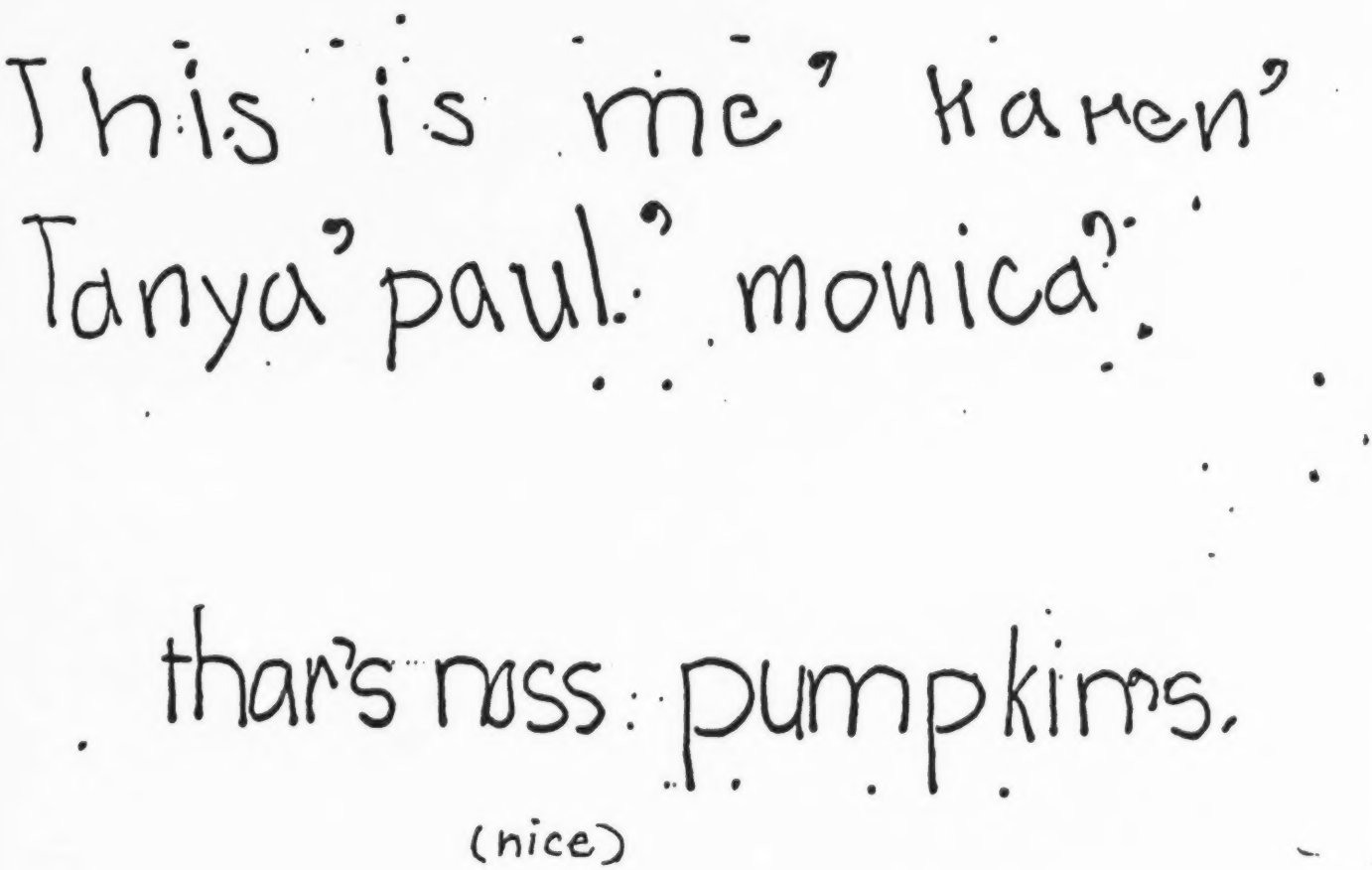
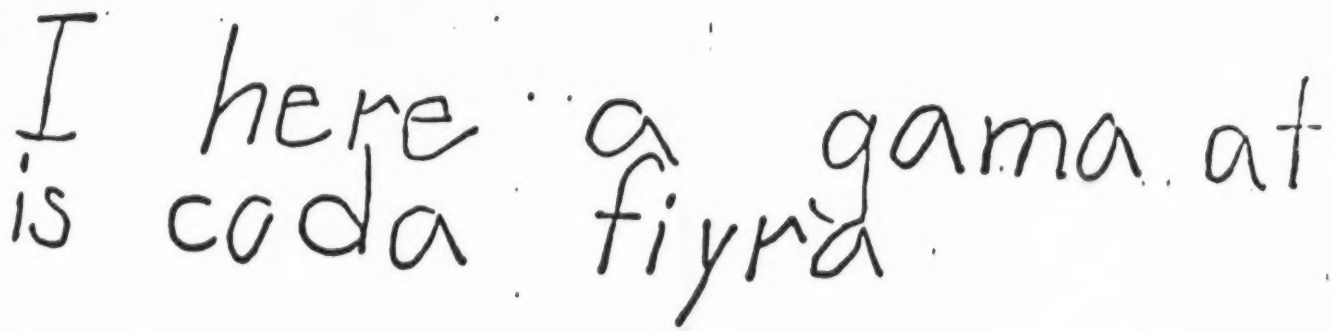
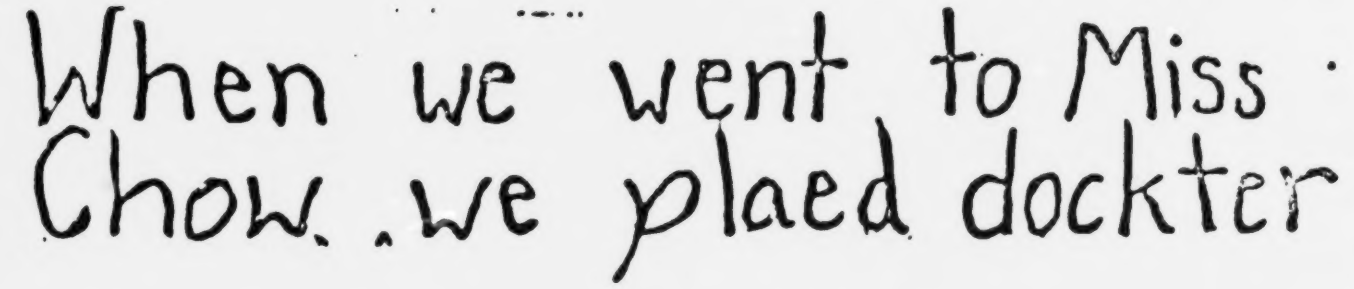


FIGURE 12

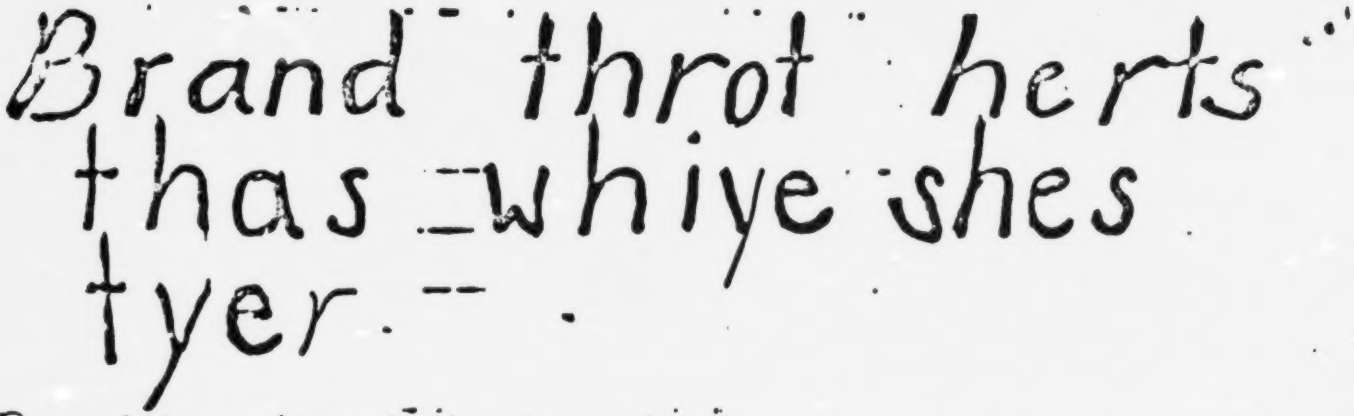


I have a game. It is called fire.

FIGURE 13



When we went to Miss Chow, we played doctor.



Brandy's throat hurts, that's why she's tired.

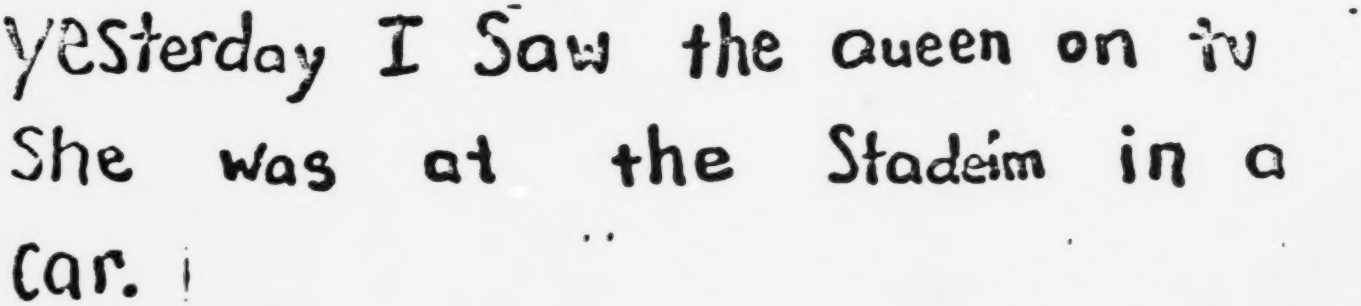
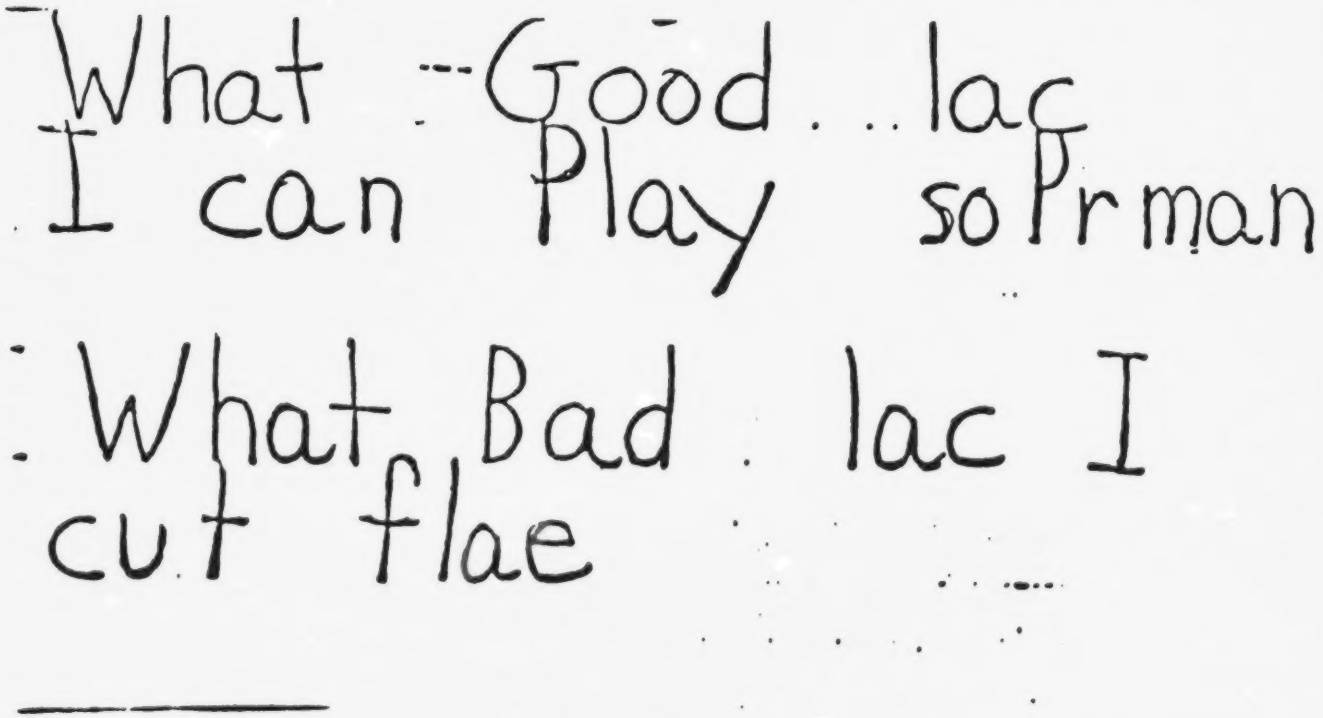


FIGURE 14



What good luck I can play Superman
What bad luck I can't fly.

FIGURE 15

i wus rit end

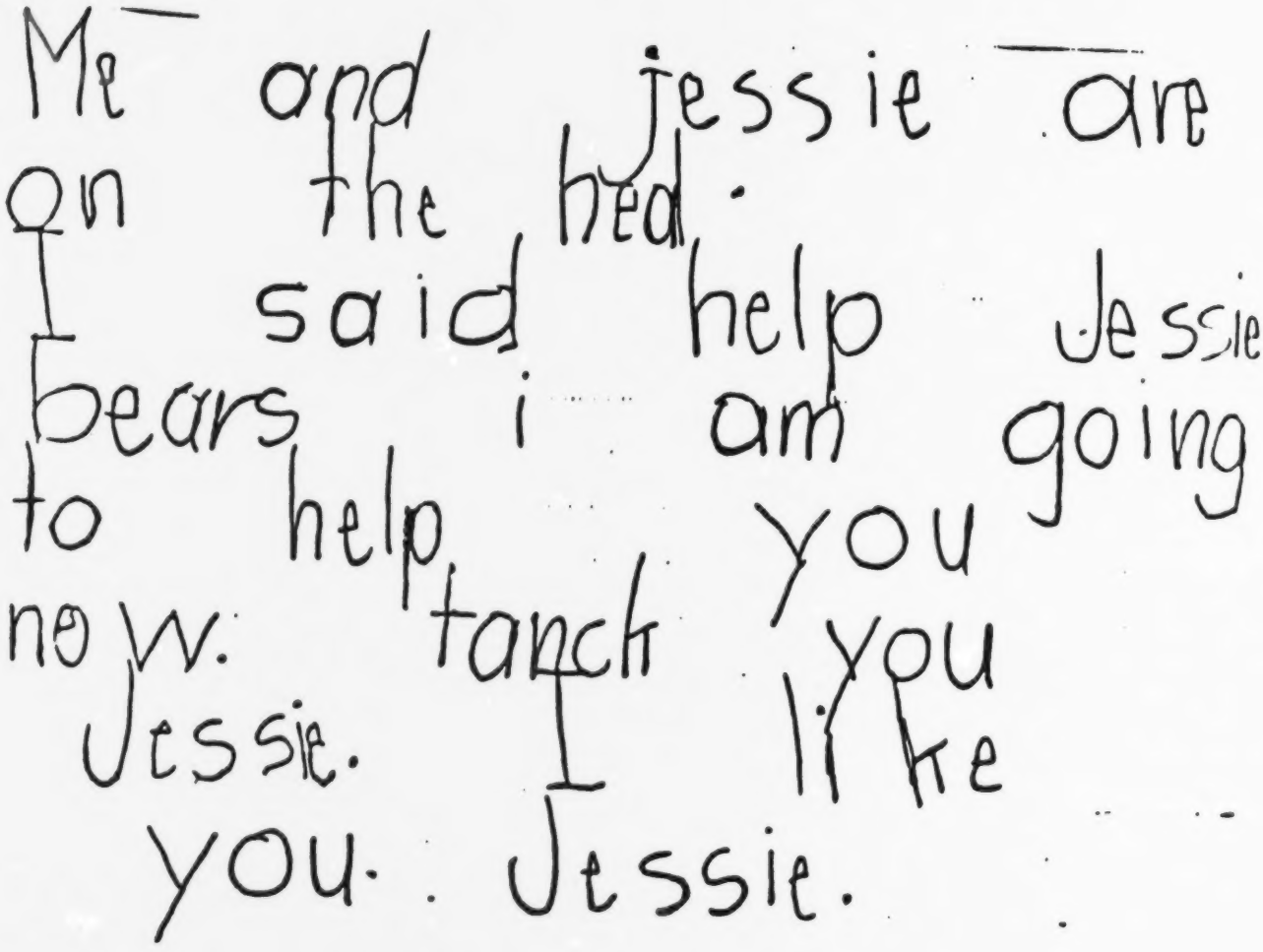
uoy wur rog

I was right and you were wrong.

this is the disols and
sa aer good bot cunosck
is goodar sin the dsols
cunosck has jone garit
now

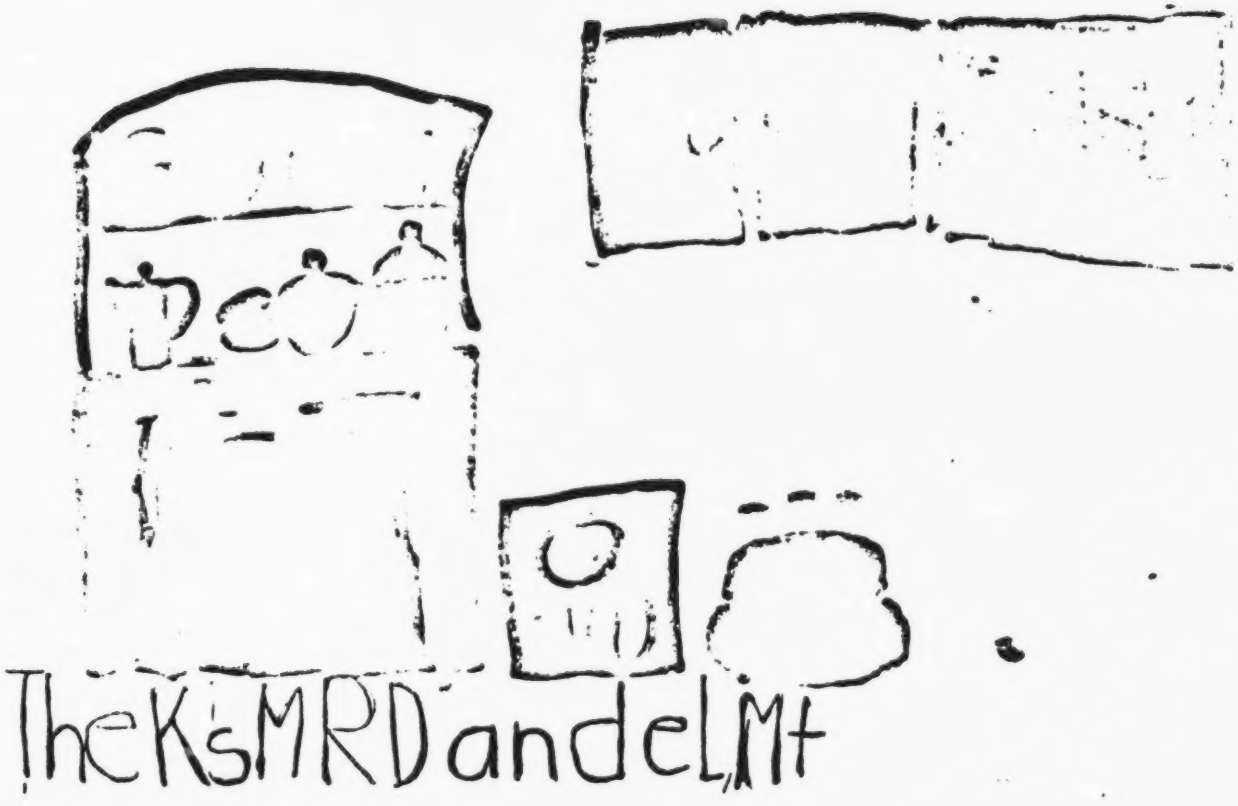
This is the Devils and they are good but the Canucks is gooder than the Devils. Canucks has John Garrett now.

FIGURE 16



Me and Jessie are on the hill. I said, "Help, Jessie! Bears!". "I am going to help you now." "Thank you, Jessie. I like you, Jessie."

FIGURE 17



The cake is not ready and I'll make it.

APPENDIX A

Hurst,1982

AN EVOLVING MODEL OF THE CONTINUUM OF EMERGENT LITERACY

Emergent Reading			Emergent Writing
Oral to Book Language	Direction and Position	Cues Used to Predict and Correct	
relating events telling stories			scribble
talking to print		own experiences, own dialect	shapes
book-like talking		own experiences, some story-like schema, some book-like phrases	linearity, symbol-like
picture-controlled	page-matching	more book-like phrases, picture cues	random letters
fluent partially remembered sentences		some book-like sentences, pictures	unstable direction, prints own name
partially memorized fluent sentences	line-matching	more story schema, book-like sentences, pictures, short lines of print	single letters - knows must be specific
slower, book language	locating familiar words	story schema, book language, pictures, trying to segment into words	semi-syllabic, letter-name strategy, no vowels
intervals of staying with the print and of fluency	finger-pointing	focus on word-space-word matching may skip unfamiliar words (no response)	direction controlled, approximating vowels, some sight words
staccato, book-like	voice-pointing	less semantic/syntactic, focus on words and 1st letters for self-correction	writing learning independently, fine phonetic discriminations - own perceptions
	Reading		
light stress on words, learning independently		more prediction of semantic/syntactic, checking re words, 1st and last letters, learning independently	correct unmarked vowels
phrasing-fluency returning		graphic successfully subordinated to semantic/syntactic predictions, starting to use letter clusters	some vowel markers
		balanced integration of all cue systems in appropriate materials	some inflectional patterns
			some derivational patterns